

CARCINOMA OF THE GALLBLADDER

A STUDY OF SEVENTY-FIVE CASES

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CARCINOMA OF THE GALLBLADDER is rarely diagnosed before the patient comes to operation or to autopsy. It was decided to study this group of cases for the purpose of learning whether there was any set of symptoms or signs or a combination of the two which specifically point to this diagnosis as against inflammatory lesions of the biliary tract or carcinomata adjacent to the gallbladder. The records of all patients having carcinoma of the gallbladder, in the files of the Michael Reese Hospital for the years 1922 through June, 1938, and those at Cook County Hospital for the years 1925 to 1937, inclusive, have been carefully examined. We have included in this study only those cases in which the diagnosis was proven either by a biopsy of the gallbladder or by postmortem examination. There were 44 cases at the Cook County Hospital, and 31 at Michael Reese Hospital, which met these criteria. Of these 75 cases, 27 had biopsies, 44 had autopsy examinations, and four had both.

We shall not review the literature in any detail as it has been so exhaustively considered by Cooper,¹ and Illingworth.² Although there have been over 2,000 cases reported in the literature since 1900, the series herewith presented, we believe, is the largest single group as yet reported.

Carcinoma of the gallbladder occurred in 31 males (41.3 per cent) and 44 females (58.7 per cent), or a ratio of approximately 3:4, which is a much higher incidence of this lesion in males than has been found in other statistics. In both Cooper's and Illingworth's series the ratio was 1:4, in Jankelson's³ it was 1:3. The ages range from 36 to 84 years, with the greatest number between the ages of 51 and 70 (62.7 per cent). Interestingly enough, there is no difference in the age range for the men and the women (Table I).

TABLE I

AGE INCIDENCE

Ages	Males	Females	Total
31-40.....	..	3	3
41-50.....	4	9	13
51-60.....	13	13	26
61-70.....	11	10	21
71-80.....	3	8	11
81 and over.....	..	1	1
Totals.....	31 (41.3%)	44 (58.7%)	75

Submitted for publication February 16, 1939.

The symptoms (Table II) fall into two groups: Those occurring in more than half the cases; and those in less than half. In the first group, there is pain in the right upper quadrant and epigastrium in 50, or two-thirds of the cases; loss of weight in 43, or 57.3 per cent; and jaundice in 41, or 54.7 per cent). The pain was present for less than six months in 26 of the patients (60 per cent of those having pain) and for less than a year in 31 cases (76 per cent of those with pain). It was present for more than five years in 11 patients, of whom eight had pain for over ten years (Table III). In 29 patients, pain was the first symptom noted. It is interesting to note how frequently marked weight loss occurred in our patients, for Illingworth specifically states that weight loss is not a prominent symptom of carcinoma of the gallbladder; and it was observed in only eight of his 30 cases. Of the 41 patients with jaundice, six stated that it was the first intimation they had that anything was wrong. Incidentally, the presence of jaundice can probably be explained only by the fact that in metastasizing locally the lymph nodes surrounding the common duct are involved, thus producing pressure and obstruction.

TABLE II
SYMPTOMS

Symptoms	No. of Cases	Percentage of Cases
Pain {R.U.Q. Epigastric}.....	50	67.0%
Weight loss.....	43	57.3%
Jaundice.....	41	54.7%
Anorexia.....	14	18.7%
Acholia.....	15	20.0%
Belching.....	29	38.7%
Weakness.....	16	21.3%
Nausea.....	14	18.7%
Vomiting.....	30	40.0%
Diarrhea.....	9	12.0%

TABLE III
DURATION OF PAIN

Duration	No. of Cases
Under 1 month.....	6
1-6 months.....	20
6 months-1 year.....	5
1-2 years.....	1
2-5 years.....	2
5-10 years.....	3
Over 10 years.....	8
Unknown duration.....	5

In 15 of our patients (Table IV), all three of the above symptoms were present, and in 33 cases, two of these three symptoms occurred in conjunction. While we realize that these symptoms are found together in lesions other than carcinoma of the gallbladder, we believe that if these three symp-

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toms were more widely recognized as relatively common in malignancy of the gallbladder, the diagnosis might be made more frequently than it is at present.

In the second group of symptoms, namely, those occurring relatively infrequently, belching was complained of by 29 patients, vomiting was present in 30 cases, weakness in 16, anorexia in 14, and acholic stools in 15 cases. Only seven patients had chills and fever, and nine complained of diarrhea. No gross blood was noted in the stools, nor were tarry stools present according to the patient.

TABLE IV
CASES IN WHICH PAIN, WEIGHT LOSS AND
JAUNDICE WERE PRESENT IN COMBINATION

	No. of Cases
Weight loss and jaundice.....	5
Weight loss and pain.....	16
Pain and jaundice.....	12
Pain, weight loss and jaundice.....	15

On physical examination, jaundice was the most constant finding, being present at the time of admission or developing while under observation in 41 patients. The liver was enlarged in 41 patients (not the same 41 who had jaundice); in 12 of these patients, the examiner stated that the liver was nodular. In 15 of the patients with an enlarged liver, a mass was palpable below the liver. In an additional 16 patients, a definite mass was felt in the right upper quadrant which was not identified by the examiner, so that we cannot be sure whether it was liver or gallbladder or both. Ten patients had ascites of relatively advanced degree; despite this fact only two patients had a cirrhosis of the liver. In 20 patients (26.7 per cent), stool examinations showed occult blood.

Of the 75 patients studied, 53 (69.3 per cent) had stones in the gallbladder (Table V). Of the 31 men, 18 (58 per cent) had stones; 35 (79.5 per cent) of the 44 women had stones. Twenty-six women and 16 men who had stones in the gallbladders were between the ages of 41 and 70. The average age for men and for women with calculi in the gallbladder is about the same. The males without stones, however, average slightly higher in age than those with stones, while the women with or without stones are of about the same age.

TABLE V
INCIDENCE OF STONES

	Stones	No Stones
Females.....	35 (79.5%)	9 (20.5%)
Average age.....	59.4 years	57.8 years
Males.....	18 (58%)	13 (42%)
Average age.....	58.5 years	63 years

Four patients in the series had had a cholecystostomy previously. One had had the operation 16 years before the carcinoma was found, one had had it a year and a half previously, and one only five months before readmission

to the hospital; the fourth patient could not recall when the operation had been performed. All four patients had stones in their gallbladders at the time that the cholecystostomy was performed. In addition to these four patients, six had been told that they had gallbladder disease, one, as long as 26 years before the carcinoma was found; one, as recently as a month before the final diagnosis; the others, at various lengths of time between these two extremes. Four of this group had stones in their gallbladders at the time that the carcinoma was discovered.

Thirty-nine patients were operated upon in the course of their stay in the hospital. Thirteen had an exploratory celiotomy performed; in seven of these, a biopsy was taken; the other six were closed without anything being done. Five patients had a cholecystostomy; four with a biopsy in addition; ten patients had a cholecystectomy; seven a cholecystectomy and choledochotomy; one a cholecystectomy with drainage of the hepatic duct; one a cholecystectomy and a choledochoduodenostomy; one a cholecystogastrostomy; and one a jejunostomy (Table VI). Of these 39 patients, 21 died while in the hospital or shortly thereafter. Of the remaining 17, one is believed by his physician to be alive. In that patient, a very small adenocarcinoma of the fundus of the gallbladder was found at the time that a cholecystectomy was performed. We have been unable to learn the fate of the other 16 patients who left the hospital alive. Undoubtedly the four patients in whom biopsies alone were done have died, as has the patient with the cholecystogastrostomy.

TABLE VI
OPERATIONS

Type	Total Cases	No. Died in Hospital
Exploratory.....	6	6
Exploratory with biopsy.....	7	4
Cholecystostomy.....	1	1
Cholecystostomy with biopsy.....	4	3
Cholecystectomy.....	10	3
Cholecystectomy and choledochotomy.....	7	3
Cholecystectomy and choledochoduodenostomy.....	1	..
Cholecystectomy and drainage hepatic duct.....	1	..
Cholecystogastrostomy.....	1	..
Jejunostomy.....	1	1

The pathologic diagnoses for this series were: Adenocarcinoma in 52, carcinoma simplex in nine, colloid carcinoma in two, and metaplastic, squamous cell carcinoma in one case. In 11 patients, the type of carcinoma was not stated. (Because of technical difficulties we were unable to review the slides.) Invasion of the liver was present in two-thirds of the cases.

In general, our results seem to agree fairly closely with those of other investigators; the most outstanding difference in our group is the much higher percentage of males, 3 : 4, as compared with the nearest figure of 1 : 3.

CONCLUSION

(1) Seventy-five cases of carcinoma of the gallbladder, of whom 31 were men and 44 were women, are presented. The ages ranged from 36 to 84 years, with the maximum number between the ages of 51 and 70.

(2) Three symptoms occurred in over half the patients; these were pain in the right upper quadrant and epigastrium, loss of weight and jaundice.

(3) On physical examination, over half the patients had enlarged livers. Thirty-one had a palpable mass in the right upper quadrant; in 15 of these the mass was felt in addition to an enlarged liver.

(4) Sixty-nine and one-half per cent of the patients had calculi in their gallbladders.

(5) Pathologic study showed that the vast majority of the cases were adenocarcinomata.

REFERENCES

- ¹ Cooper, William A.: *Arch. Surg.*, **35**, 431, 1937.
- ² Illingworth, C. F.: *Brit. Jour. Surg.*, **23**, 4, 1935.
- ³ Jankelson, I. R.: *New England Jour. Med.*, **217**, 85, 1937.